

**Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Petitions of the Verizon Telephone Companies)	WC Docket No. 06-172
For Forbearance Pursuant to 47 U.S.C. § 160(c))	
In the Boston, New York, Philadelphia,)	
Pittsburgh, Providence, and Virginia Beach)	
Metropolitan Statistical Areas)	
)	
In the Matter of)	
)	
Petitions of Qwest Corporation for Forbearance)	WC Docket No. 07-97
Pursuant to 47 U.S.C. §160(c) in the Denver,)	
Minneapolis-St. Paul, Phoenix and Seattle)	
Metropolitan Statistical Areas)	

COMMENTS OF CAVALIER TELEPHONE, LLC

September 21, 2009

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Cavalier Telephone, LLC (“Cavalier”) hereby submits its comments on the remands by the United States Court of Appeals of the *Verizon 6 MSA Forbearance Order*¹ and the *Qwest 4 MSA Forbearance Order*.² The Commission has asked for comment on whether it should depart from its recent precedent regarding marketplace analysis in forbearance petitions,³ including the *Omaha Forbearance Order*⁴ and the *ACS UNE Forbearance Order*.⁵

In these comments, Cavalier makes three points. First, at minimum, the Commission must establish a standard that gives independent weight to the statutory requirement that forbearance “is consistent with the public interest.” 47 U.S.C. § 160(a). As explained below, the Commission should assess the public interest in part by considering how grant of forbearance would directly affect underserved, vulnerable individuals and institutions. Cavalier is one of the

¹ *Petitions of Verizon Telephone Companies for Forbearance Pursuant to 47 U.S.C. §160(c) in the Boston, New York, Philadelphia, Pittsburgh, Providence and Virginia Beach Metropolitan Statistical Areas*, WC Docket No. 06-172, Memorandum Opinion and Order, FCC 07-212 (rel. Dec. 5, 2007), *remanded sub nom. Verizon Telephone Companies v. FCC*, 2009 U.S. App. Lexis 3269 (D.C. Cir. 2009) (“*Verizon 6 MSA Forbearance Order*”).

² *Petitions of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. §160(c) in the Denver, Minneapolis-St. Paul, Phoenix and Seattle Metropolitan Statistical Areas*, WC Docket No. 07-97, Memorandum Opinion and Order, FCC 08-174 (rel. Jul. 25, 2008), *remanded sub nom. Qwest Corporation v. FCC*, Case No. 08-1257 (D.C. Cir., Aug. 5, 2009).

³ Public Notice, Wireline Competition Bureau Seeks Comment on Remands of *Verizon 6 MSA Forbearance Order* and *Qwest 4 MSA Forbearance Order*, DA 09-1835 (rel. Aug. 20, 2009) at 3 (“Remand Public Notice”).

⁴ *In the Matter of Petition of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Omaha Metropolitan Statistical Area*, WC Docket No. 04-223, Memorandum Opinion and Order, 20 FCC Rcd 19415 (2005) (“*Omaha Forbearance Order*”), *aff’d sub nom., Qwest Corporation v. FCC*, 482 F.3d 471 (D.C. Cir. 2007).

⁵ *In the Matter of Petition of ACS of Anchorage, Inc. Pursuant to Section 10 of the Communications Act of 1934, as amended, for Forbearance from Sections 251(c)(3) and 252(d)(1) in the Anchorage Study Area*, WC Docket No. 05-281, Memorandum Opinion and Order, 22 FCC Rcd 1958 (2007) (“*ACS UNE Forbearance Order*”), *appeals dismissed, Covad Communication Group, Inc. v. FCC*, Case Nos. 07-71076 *et al.* (9th Cir. 2007).

last remaining competitive carriers to the ILECs which provides residential service to these kind of customers. The loss of these services to these customers – particularly during an economic crisis in which the Government is spending billions of dollars to provide broadband to these kinds of customers – cannot possibly be in the public interest.

Second, the Commission should recognize that it cannot rely on predictive judgments that highly concentrated markets with some retail competition will, in the absence of regulation, ensure adequate wholesale competition. In other words, the Commission should not repeat the mistake it made in Omaha.

Third, the Commission should not rely on alleged competition from wireless services in the absence of economic data showing that wireless services effectively constrain wireline pricing. Incumbent carriers have yet to furnish any meaningful analysis of this issue and thus cannot meet their burden to show that forbearance should be granted.

The Public Interest Standard

While unreasonable and discriminatory rates that harm consumers necessarily preclude a finding that a forbearance grant is consistent with the public interest, the Commission must also look at additional factors before finding a grant of forbearance to be in the public interest.⁶ The public interest analysis must take into account the “broad aims of the Communications Act.”⁷

⁶ In past forbearance orders, the Commission has suggested that if the first two prongs of the forbearance test are met, the public interest is necessarily served. This approach reads the public interest requirement out of the statute, which cannot be what Congress intended. *See, e.g., Weinberger v. Hyson, Westcott & Dunning, Inc.*, 412 U.S. 609, 633 (1973) (noting “the well-settled rule of statutory construction that all parts of a statute, if at all possible, are to be given effect”); *Abourezk v. Reagan*, 785 F.2d 1043, 1057 (D.C. Cir. 1986) (“To preserve the significance of both sections, and the congressional intent that guided their adoption, the two sections must not be homogenized . . .”), *aff’d*, 484 U.S. 1 (1987). Moreover, while a finding that “forbearance will promote competition among providers of telecommunications services . . . may be the basis for a Commission finding that forbearance is in the public interest” (47 U.S.C. § 160(b) (emphasis added)), the statute in no way precludes the Commission from considering the other factors that ordinarily inform its determination that a particular result is in the public interest.

⁷ *In re Applications of AT&T Wireless Services, Inc. and Cingular Wireless Corp. for Consent to Transfer Control of Licenses and Authorizations*, Memorandum Opinion and Order, 19 FCC Rcd 21522, ¶ 41 (2004) (quotation marks omitted) (“*Cingular-AT&T Wireless Order*”); *In re General Motors Corporation And Hughes Electronics*

Among other things, the Commission should look to preserve and enhance competition in relevant markets, accelerate private sector deployment of advanced services, and ensure a diversity of services to the public.⁸ The Commission should also assess whether forbearance will affect the quality of communications services or will result in the provision of new or additional services to consumers.

Crucially important here, the Commission's consideration of the public interest should be guided by the recently enacted American Recovery and Reinvestment Act of 2009 (the "Recovery Act" or "ARRA").⁹ That statute provides for more than seven billion dollars in grants and loans to stimulate the deployment of broadband to the "unserved," "underserved," "low-income, unemployed, aged, and otherwise vulnerable populations," as well as "schools, libraries,

Corporation, Transferors And The News Corporation Limited, Transferee, For Authority to Transfer Control, Memorandum Opinion and Order, 19 FCC Rcd 473, ¶ 16 (2004) ("News Corp.-Hughes Order"); In re Applications For Consent To The Transfer Of Control Of Licenses From Comcast Corporation And AT&T Corp., Transferors, To AT&T Comcast Corporation, Transferee, Memorandum Opinion and Order, 17 FCC Rcd 23246, ¶ 27 (2002) ("Comcast-AT&T Order"); In re Application Of EchoStar Communications Corporation, (A Nevada Corporation), General Motors Corporation, And Hughes Electronics Corporation (Delaware Corporations) (Transferors) And EchoStar Communications Corporation (A Delaware Corporation) (Transferee), Memorandum Opinion and Order, 17 FCC Rcd 20559, ¶ 26 (2002) ("EchoStar-DIRECTV HDO"); In re Applications to Consent to the Transfer of Control of Licenses and Section 214 Authorizations from Media One Group, Inc. Transferor, to AT&T Corp., Transferee, Memorandum Opinion and Order 15 FCC Rcd 9816, ¶ 11 (2000) ("AT&T-MediaOne Order"); In re Applications of VoiceStream Wireless Corporation or Omnipoint Corporation, Transferors, and VoiceStream Wireless Holding Company, Cook Inlet/VS GSM II PCS, LLC, or Cook Inlet/VS GSM III PCS, LLC, Transferees, Memorandum Opinion and Order, 15 FCC Rcd 3341, ¶ 11 (2000); In re AT&T Corp., British Telecommunications, PLC, VLT Co. L.L.C., Violet License Co. LLC, and TNV [Bahamas] Limited Applications, Memorandum Opinion and Order, 14 FCC Rcd 19140, ¶ 14 (1999) ("AT&T Corp.-British Telecom. Order"); In re Application of WorldCom, Inc., and MCI Communications Corp. for Transfer of Control of MCI Communications Corp. to WorldCom, Inc., Memorandum Opinion and Order, 13 FCC Rcd 18025, ¶ 9 (1998) ("WorldCom-MCI Order").

⁸ See, e.g., Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56, § 706 (providing for the deployment of advanced telecommunications capabilities).

⁹ Pub. L. No. 111-5, 123 Stat. 115; see e.g., *In re Applications For Consent To The Assignment And/Or Transfer Of Control Of Licenses Adelphia Communications Corporation, (And Subsidiaries, Debtors-In-Possession), Assignors, To Time Warner Cable Inc. (Subsidiaries), Assignees Adelphia Communications Corporation, (And Subsidiaries, Debtors-In-Possession), Assignors And Transferors, To Comcast Corporation (Subsidiaries), Assignees And Transferees Comcast Corporation, Transferor, To Time Warner Inc., Transferee Time Warner Inc., Transferor, To Comcast Corporation, Transferee*, 21 FCC Rcd 8203, ¶ 23 (2006) ("[T]he Commission considers . . . public interest harms [caused] by substantially frustrating or impairing the objectives or implementation of the Act or related statutes.") (emphasis added).

medical and healthcare providers, . . . and other community support organizations.”¹⁰ The purposes of the Recovery Act are, among other things, “[t]o preserve and create jobs and promote economic recovery” and “[t]o assist those most impacted by the recession.”¹¹

Cavalier is currently providing service to the “underserved,” “low-income, . . . aged, . . . otherwise vulnerable populations,” “schools, libraries, . . . healthcare providers, . . . and other community support organizations.” Cavalier’s services are specifically targeted to residential and business customers who might not otherwise qualify for service, inner-city customers for which the ILEC is unlikely to upgrade its facilities, and cost conscious enterprise customers. Cavalier is already fulfilling the Recovery Act’s goals in its markets without even touching the stimulus money.

It cannot be in the public interest to eliminate the services Cavalier provides to these individuals and institutions in any given geographic area, when a central goal of the Government is to promote economic recovery by *increasing* services for them. This is not the time in America to diminish competition and broadband options for “those most impacted by the recession.”

Moreover, granting forbearance petitions may also harm the interests of consumers well beyond Cavalier’s direct consumers. The family that cannot afford broadband or a home computer benefits from Cavalier’s service at their local library or community center. Eliminating the inputs necessary for Cavalier and other like CLECs to provide service would not “preserve and create jobs.”

At the same time, requiring the ILECs to unbundle its DS0 copper loops is no disincentive for the ILEC to invest in upgraded facilities; in fact quite the opposite is true. If an

¹⁰ ARRA § 6001.

¹¹ *Id.* § 3.

ILEC upgrades its facilities to fiber, it is relieved of unbundling obligations. The unbundling obligations only encourage ILECs to invest in broadband.

Do Not make the Omaha Mistake Again

The last Commission's decision to eliminate loop unbundling in Omaha was wrong. Specifically, the Commission's predictive judgment in *Omaha* that market forces would compel Qwest — in complying with its § 271 obligations — to offer commercial pricing at reasonable rates was erroneous. In fact, Qwest has offered wholesale services only at special access rates, forcing at least one competitor to exit the market.¹² Qwest's actions following release of the *Omaha Forbearance* Order show that in a highly concentrated market, market forces associated with retail competition alone do not incentivize an incumbent to provide wholesale access to competitors on commercially reasonable terms.¹³ The Commission should not repeat that mistake in the future and should ensure that wholesale and retail customers are protected from the ILEC's market power.

Wireless Services are not a Substitute for Wireline Services

Lastly, the Commission should not rely on alleged competition from wireless services in the absence of any economic data showing that wireless services constrain wireline pricing. Past forbearance decisions have erred in suggesting that one can count the number of customers that have "cut the cord" and get meaningful information about whether forbearance is justified. "If customers switch between wireline and wireless access but not in response to price changes, then wireless is not a close substitute and cannot prevent the exercise of market power in the wireline

¹² See Letter from Andrew D. Lipman *et al.*, Counsel for McLeodUSA Telecommunications Services, Inc. to Marlene H. Dortch, Secretary, FCC, WC Docket No. 04-223, at 5-6 (filed Nov. 12, 2007); Letter from William Haas, Vice President-Regulatory and Public Policy, PAETEC, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 07-97 (filed July 10, 2008); Letter from Andrew D. Lipman, Counsel for Affinity *et al.*, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 07-97 (filed June 30, 2008).

¹³ See Letter from William Haas, Vice President-Regulatory and Public Policy, PAETEC, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 07-97 (filed July 10, 2008); *see also* Petition for Modification of McLeodUSA Telecommunications Services, Inc., WC Docket No. 04-223 (filed July 23, 2007).

market.”¹⁴ In the absence of any evidence that wireless offerings in fact constrain the ILEC’s pricing, data about customers that have cut the cord is essentially irrelevant. Cavalier submits as attachments to these comments an important Declaration by Dr. Michael Pelcovits that explains this point in detail. Cavalier encourages the Commission to review Dr. Pelcovits’ thoughtful analysis and include his views in crafting any standard for future forbearance petitions.¹⁵

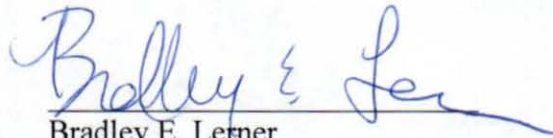
¹⁴ See Declaration of Dr. Michael D. Pelcovits filed by Cavalier Telephone in WC Dockets No. 08-24 and 08-49 on April 21, 2009 (attached hereto).

¹⁵ Where forbearance has been granted, the Commission has not previously relied on wireless competition, and in fact has suggested that it is not appropriate to consider in evaluating facilities-based competition. *See, e.g., ACS UNE Forbearance Order*, ¶ 23 (“Forbearing from section 251(c)(3) or section 252(d)(1) of the Act where no competitive carrier has constructed substantial competing last-mile facilities capable of providing telecommunications services is not consistent with the public interest and likely would lead to a substantial reduction in the retail competition that today is benefiting customers in the Anchorage study area.”); *see also id.* ¶¶ 2, 20, 27 (relying on cable competition); *ACS Dominance Forbearance Order* ¶¶ 28, 36 (same); *Omaha Forbearance Order* ¶¶ 25, 28, 58, 59, 62 (same)

Conclusion

For the foregoing reasons, the Commission should adopt a meaningful public interest standard that considers the impact of forbearance on vulnerable people and populations. It should also ensure that it does not repeat the Omaha mistake of assuming retail competition in a highly concentrated market will ensure adequate wholesale competition. And finally, the Commission should explicitly reject a finding that wireless services constitute an effective competitive constraint on wireline services in the absence of any economic analysis on this issue.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Bradley E. Lerner", written over a horizontal line.

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In the Matter of)	
)	
Petition of Verizon New England for Forbearance)	WC Docket No. 08-24
Pursuant to 47 U.S.C. § 160(c) in Rhode Island;)	
)	
Petition of the Verizon Telephone Companies)	WC Docket No. 08-49
for Forbearance Pursuant to)	
47 U.S.C. § 160(c) in Cox's Service Territory in)	
the Virginia Beach Metropolitan Statistical Area)	
)	

DECLARATION OF DR. MICHAEL D. PELCOVITS

1. INTRODUCTION

I have been asked by Cavalier Telephone Corporation ("Cavalier") to provide an economic analysis of several of the key policy issues raised by the forbearance petition submitted by the Verizon Telephone Companies ("Verizon") for the Cox service area of the Virginia Beach MSA. Specifically, I have been asked to provide an analysis of whether the dominant carrier regulations and Section 251(c)(3) UNE obligations that apply to Verizon's loop and transport unbundled elements should be removed in the Cox service area of the Virginia Beach MSA. My analysis will focus on the residential and small business markets that would be affected by deregulation of Verizon's obligation to provide voice-grade "DS0" loops and related elements. Because these issues are also raised in Verizon's petition for forbearance in Rhode Island, and the Commission's resolution of the Rhode Island petition will likely have a significant impact on resolution

of the Virginia Beach petition, I am also submitting my declaration in the Rhode Island proceeding.

In preparing this analysis I have reviewed Verizon's Virginia Beach petition and supporting exhibits, comments filed by Cavalier and other parties, and Verizon's reply comments in that proceeding. In addition, I have become familiar with Cavalier's business operations in the Virginia Beach MSA. I have also reviewed recent studies concerning the substitutability of wireless for wireline services.

This declaration is organized as follows. Following this introduction I will present a review of my professional qualifications. Then in Section III, I will explain how I approached the issue of forbearance from an economic vantage point. In Section IV, I address the issue of the defining the market to analyze competition issues. In the following section, I address one of the most critical issues confronting the Commission in this forbearance case (and undoubtedly in many others to follow) -- namely, whether wireless services constitute an effective competitive constraint on wireline services. In the final section, I explain how the Commission's decisions on forbearance for voice services and broadband services are inextricably interrelated.

2. QUALIFICATIONS

My name is Michael D. Pelcovits. I am a principal with the consulting firm Microeconomics and Research Associates, Inc. ("MiCRA"). I received my Ph.D. in Economics from the Massachusetts Institute of Technology in 1976. Since serving on the economics faculty of the University of Maryland and as a Senior Economist at the Civil Aeronautics Board, I have spent my entire career specializing in the economics of regulation and competition in the telecommunications industry.

From 1979 to 1981, I was a Senior Economist at the Federal Communications Commission, Office of Plans and Policy. From 1981 to 1988, I was a founding member and principal of the consulting firm Cornell, Pelcovits and Brenner. In 1988 I joined MCI Communications Corporation and remained with the Company following its merger with WorldCom, until 2002. I held positions of increased responsibility at MCI, and was appointed Vice President and Chief Economist of the corporation. In this position I was responsible for the economic analyses of policy and regulatory matters provided and presented by the Corporation before federal, state, foreign, and international government agencies, legislative bodies and courts.

I joined MiCRA in October 2002, immediately after leaving MCI, and am one of six principals of the firm. MiCRA is an economic consulting firm based in Washington, DC. The firm was founded in 1991 by a group of economists who served in senior positions at the Antitrust Division of the U.S. Department of Justice. MiCRA provides economic analysis, expert testimony, and economic research to clients in a wide range of antitrust, regulatory, and other legal and public policy settings. Since joining MiCRA, I have testified before several state regulatory commissions on telecommunications policy and ratemaking issues. These testimonies have focused on the importance of establishing the proper foundation to facilitate competition in telecommunications markets. I have also filed several declarations before the Federal Communications Commission on a wide range of common carrier, wireless, and international telecommunications policy issues. I have also consulted and provided testimony on telecommunications, intellectual property and competition matters before several other Courts and administrative bodies, including: Federal District Court; U.S. Copyright Royalty Judges; and London Court of

International Arbitration. My curriculum vita, which is appended as Attachment MDP-1 to this testimony, provides more detail concerning my qualifications and experience.

3. ECONOMIC FRAMEWORK FOR ANALYZING FORBEARANCE

The Commission is required to forbear from any statutory provision or regulation if it determines that: (1) enforcement of the regulation is not necessary to ensure that the telecommunications carrier's charges, practices, classifications, or regulations are just, reasonable, and not unjustly or unreasonably discriminatory; (2) enforcement of the regulation is not necessary to protect consumers; and (3) forbearance from applying such provision or regulation is consistent with the public interest. As the Commission explained in its prior decision denying forbearance to Verizon in the Virginia Beach MSA (along with other geographic areas), "[f]orbearance is warranted under section 10(a) only if all three elements of the forbearance criteria are satisfied."¹ In that decision, the Commission approached the forbearance issue by first identifying the relevant markets affected by regulation of Verizon and then analyzed the state of competition in these markets.

The plain reading of the statute and Commission precedent appear, in my opinion, to dictate a standard competition analysis -- similar to the efforts undertaken by the antitrust agencies, by regulatory agencies, and by the Commission itself in many other contexts. The economic issue is whether actual and potential competition is sufficient -- in the absence of regulation -- to constrain the regulated firm and prevent it from setting excessive prices or setting other conditions that would harm consumers.

¹ *In the Matter of Petitions of the Verizon Telephone Companies for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Boston, New York, Philadelphia, Pittsburgh, Providence and Virginia Beach Metropolitan Statistical Areas*, WC Docket No. 06-172, Memorandum Opinion and Order, 22 FCC Rcd 21293, ¶ 20 (2007) ("Six MSA Forbearance Order").

4. MARKET DEFINITION

Concept of Market Definition

Competition analysis must be conducted for a well-defined market, both from a product and geographic standpoint. As explained by the Department of Justice and Federal Trade Commission in the Merger Guidelines, the analytical process in evaluating the likely competitive impact of a merger must be within the context of “economically meaning markets, i.e., markets that could be subject to the exercise of market power.”²

Market definition focuses solely on demand substitution factors -- i.e. possible consumer responses. According the Merger Guidelines, “[a] market is defined as a product or group of products and a geographic area in which it is produced or sold such that a hypothetical profit-maximizing firm, not subject to price regulation, that was the only present and future producer or seller of those products in that area likely would impose at least a ‘small but significant and nontransitory’ increase in price...”³ This is often referred to as the “SSNIP” test.

The determination of a product market typically centers on analysis of evidence of consumers’ willingness to substitute among different products in response to price changes. Geographic market definition requires an analysis of the willingness of consumers to purchase products sold in different locations, e.g. shopping patterns for retail purchases.

² U.S. Dep’t of Justice & Fed. Trade Comm’n, *Horizontal Merger Guidelines* § 1.0 (rev. ed. 1997), available at http://www.usdoj.gov/atr/public/guidelines/horiz_book/10.html.

³ *Id.*

Market Definition Applicable to the Verizon Forbearance Petition

It is possible to approach the markets affected by Verizon's Virginia Beach petition from a number of vantage points. From a strict geographic standpoint, virtually every customer constitutes a separate market, since no one will be willing to go next door to use the telephone or surf the Internet, in response to a "small but significant nontransitory" increase in prices. The Commission, however, has recognized the impracticality of using individual customers as the geographic market and has looked at larger areas. Moreover, in determining what area is appropriate, the Commission should consider the supply-side implications of how its decision concerning one geographic area will affect competition in nearby areas. Entry and sustainability of competition in local markets will depend on profit opportunities in much larger geographic areas than a single wire center serving area.

My analysis is focused on the voice and broadband services provided to residential and small business customers in the Virginia Beach MSA. I will not attempt to distinguish between residential and small business customers or across geographic areas, because the issues that I am addressing are significant for large numbers of customers in all of these geographic and product markets. In particular, I will attempt to answer the question of whether wireless services would constrain a hypothetical wireline monopolist in the voice and data markets for these customers. (This is analytically similar to the question in a merger context as to whether wireless and wireline services belong in the same antitrust market.) Although there may be important difference between residential and small business customers as well as across geographic markets, I believe that these are not central to the analysis of wireline/wireless substitutability.

Market definition must also be handled carefully in this proceeding, however, in relationship to the analysis of voice and data services. Most consumers of wireline voice and data services purchase these services from a single vendor, which supplies the services on the same wireline facility. Does this mean that the two services are in the same market? From the standpoint of demand substitution (at least for most consumers) they would not be in the same market. Nevertheless, complementarities on the production and consumption side of these markets must enter into the Commission's analysis.

5. WIRELESS-WIRELINE SUBSTITUTION

Verizon's claim that there is "extensive competition for telecommunications services in Cox's service territory"⁴ in the Virginia Beach MSA rests on the inclusion of wireless, VoIP, and CLECs among the alternatives available to consumers in the relevant market. Although Verizon states correctly that Cox is the most important competitor in the market, it undoubtedly recognizes that unless it can add other carriers to the voice and data markets, it will be forced to advocate forbearance in a duopoly market. And it is doubtful that Verizon's petition would be granted if it cannot demonstrate significant competition from wireless service. As Acting Chairman Copps and Commissioner Adelstein have opined in the past, forbearance is inappropriate when the only competition is from cable.⁵

For this reason, I will now address this question directly, and examine whether wireless and wireline service belong in the same antitrust market. I will focus on wireless

⁴ Declaration of Quitin Lew, John Wimsatt, and Patrick Garzillo on behalf of Verizon Telephone Companies, ¶ 4.

⁵ *Six MSA Forbearance Order*, 22 FCC Rcd at 21326, Statement of Commissioner Michael J. Copps, Concurring; 22 FCC Rcd at 21327, Statement of Commissioner Jonathan S. Adelstein, Concurring.

substitution for wireline voice service. This is the portion of the market where Verizon has attempted to show the greatest substitutability of wireless for wireline service. Following this discussion, I will examine a more ambitious claim that wireless broadband service is competitive with wireline broadband service.

What is a Competitive Constraint?

Wireless voice service substitutes for wireline voice service but not for all purposes or for all users. This is apparent from casual observation as well as from statistics about cord-cutting and usage substitution, especially for long-distance calling. Not surprisingly, Verizon's petition refers extensively to the empirical data that confirms there is some substitutability between wireline and wireless service. But the story does not end here. The existence of some substitutability does not obviate the need to investigate whether a real-world firm (let alone a hypothetical monopolist used in the SSNIP test of market definition) can exercise market power. If it was this simple, then there would be no need for the comprehensive and sophisticated analyses routinely performed by the antitrust agencies in merger reviews or other investigations of monopolization.

A proper analysis of market definition and market power in the Virginia Beach voice market would require statistical analysis of the evidence concerning the *degree* of wireline-wireless substitutability, and the ability of Verizon's to raise and sustain price above competitive levels notwithstanding the presence of competitors – including the wireless industry. The methods used to test the degree of substitutability would include, for example: econometric analysis of the demand for wireline service, including the cross elasticity between wireline and wireless service; and analysis of customer switching

patterns (i.e. diversion) between wireline and wireless in response to changes in the marketplace.

To give an example of how a “proper” analysis is done, I would point to the Federal Trade Commission’s investigations of two mergers in the retail industry. The first merger was between Staples and Office Depot; the second was between May Department Stores and Federated Department Stores. Both cases required the FTC to determine whether other retail establishments exerted a sufficient constraint on the pricing of the merging firms, and in particular whether the market should be defined narrowly or broadly.⁶ In the Staples-Office Depot case, the FTC concluded that office supply superstores were not constrained sufficiently by competition from other retail vendors of office supplies, e.g. Walmart. In the Federated-May case, the FTC concluded that other retail stores, e.g. the Gap, constrained the pricing of the conventional department stores. These decisions were based on econometric analysis of pricing practices in the markets affected by the proposed mergers. The FTC did not rely on general statements or broad brush observations about the markets in order to determine whether two somewhat-substitutable retail establishments were close enough substitutes to constrain an exercise of market power. Nor did they simply count the number of customers that currently shop exclusively at one establishment instead of the other.

Verizon could undertake rigorous statistical analysis of wireline-wireless substitutability, but has not produced such evidence along with this Petition.⁷ This is

⁶ Aileen Thompson, *Merger Analysis at the Federal Trade Commission: Two Recent Retail Cases*, www.ftc.gov/be/thompsmerg.pdf.

⁷ Verizon cites to “statistical evidence” that “wireless puts competitive pressure on wireline pricing.” (Declaration of Lew, Wimsatt, and Garzillo, ¶27). This evidence consists of a 2004 paper from the Competitive Enterprise Institute, which purported to demonstrate a cross-elasticity of demand of nearly 2 between wireline prices and wireless demand. This result, which is based on data between 1984 and 2003, is simply not credible. The use of data from this long period of time is very odd, and hard to square with

particularly troubling because Verizon would have access to the valuable data necessary to perform regression or diversion analysis. In particular, the key empirical test is *how much switching* between wireline and wireless access is due to changes in the relative prices (i.e. the cross-elasticity of demand). If the customers switch between wireline and wireless access but *not* in response to price changes, then wireless is not a close substitute and cannot prevent the exercise of market power in the wireline market.

Porting Activity Shows Little Diversion from Wireline to Wireless

With regard to customer switching behavior, it is noteworthy that few customers that “cut the cord” port their wireline number to a new wireless service. Recently-released data on number porting show that only 27,000 numbers have been ported between wireline and wireless carriers in Virginia.⁸ By comparison, 1.5 million numbers have been ported among wireline carriers and 915,000 among wireless carriers in Virginia.⁹ This should cast doubt on Verizon’s hypothesis that there would be widespread further cord cutting and conversion of wireline service to wireless service in response to a small increase in the price of wireline service.

the claim that the market has changed dramatically in the last couple years. From an econometric standpoint, the “finding” of an absurdly high cross-elasticity appears to reflect a simple correlation between wireless demand and increases in wireline prices. In other words, while it is true that wireless subscription has grown enormously during this twenty year period, and it is also true that some indices of wireline prices have also increased during this period, this is not a proof of causation. Over the same period of time, many other factors changed as well. For example, commutes increased, the service economy grew, and wireless signal quality improved. Yet these trends are far from a complete (or statistically significant) explanation of the increase in wireless subscription. And any econometric analysis that fails to capture causation (or adjust for other trends in the market) will produce spurious and even nonsensical results.

⁸ Craig Stroup & John Vu, Industry Analysis and Technology Division, Wireline Competition Bureau, Federal Communications Commission, *Numbering Resource Utilization in the United States: NRUF data as of June 30, 2008*, Table 17 (2009).

⁹ *Id.*

The data for Virginia is mirrored in nationwide data, where the total number of ports from wireline to wireless carriers is reported to be 2.2 million.¹⁰ This is a very small percentage of the 20 million households that have cut the cord in the last several years.¹¹ Cavalier's experience mirrors these larger trends, revealing that less than **[Begin Confidential]** **[End Confidential]** of former Cavalier customers chose to port their landline number to a wireless (or even a VoIP provider).¹²

There are a number of possible explanations of this phenomenon of low levels of porting activity from wireline to wireless. Certainly many categories of cord cutters, such as younger consumers or unrelated adults living together, may never have had a wireline phone. Other cord cutters may start with a wireline and wireless phone and then cut the cord on the wireline phone keeping his or her wireless phone and the associated number. Nevertheless, the data does suggest that few established households (e.g. homeowners with children living at home) cut the cord on the family's wireline phone and substitute a wireless phone to provide the same functionality. This would imply that a significant portion of the wireline customers have not been and would not be very sensitive to changes in the relative price of wireline and wireless phone service.

What can we learn from the incidence of cord-cutting?

Results from the National Health Interview Survey (NHIS) Survey showing the number of households with only wireless telephone service are reported on a semi-annual basis by the Center for Disease Control. These surveys are conducted for the purpose of

¹⁰ *Id.* Table 15.

¹¹ There are approximately 117 million households in the United States. (Census Bureau, Current Population Survey) According to the latest CDC report, 17.5% of households have cut the cord.

¹² Declaration of Sean Wainwright ¶ 9, Exhibit 3 to Cavalier Telephone, LLC's Opposition to Verizon's Petition for Forbearance, WC Docket 08-49 (filed May 13, 2008).

determining possible bias from health surveys that are limited to landline telephones. They are not developed or constructed to analyze competition issues. Nevertheless, the data are the best available information on the number of households or adults that have “cut the cord.”

The most recent results, which are from the January-June 2008 NHIS,¹³ estimate that 16.1% of adults live in households with only wireless telephone service, compared to 14.5% in the previous survey during the last half of 2007.¹⁴

Does this data demonstrate that wireless service would constraint non-competitive pricing by Verizon? The simple answer is no. The more complicated answer is that it appears to prove the opposite. Namely, that in spite of significant changes in the marketplace over the last several years (including changes in the relative prices of wireless and wireline), many demographic groups have not cut the cord. This behavior would seem to be inconsistent with large cross-elasticities.

The extent of cord-cutting is closely correlated with certain demographic characteristics. Only 2.8% of adults 65 years and older and 9.2% of adults between the ages of 45 and 64 have cut the cord, compared to 35.7% of 25-29 year olds and 31.4% of 18-24 year olds. Other significant factors include: household structure, with 63.1% cord cutting in households with unrelated adults and no children living together, compared to 12.5% cord cutting in households with children; home ownership status, with 33.6% of renters cutting the cord, compared to 9.0% of homeowners cutting the cord.

¹³ Stephen J. Blumberg & Julian V. Luke, Centers for Disease Control and Prevention, *Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, January-June 2008*, (2008) available at <http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless200812.pdf>.

¹⁴ As I will explain below, this is a nationwide estimate that “counts” all survey respondents the same, and is heavily influenced by certain demographic groups, such as students, living in rented housing. Drawing conclusions from a nationwide number is very dangerous, because it ignores the differences between customers based on how they use telephone services. Consequently, this can lead to erroneous conclusions about the ability of Verizon to raise prices to the customers that have not yet cut the cord.

Recently the CDC released state-level estimates from the NHIS survey results from 2007. The results show that the “prevalence of wireless-only households and adults in 2007 varied substantially across states. State-level estimates ranged from 5.1% (Vermont) to 26.2% (Oklahoma) of households and from 4.0% (Delaware) to 25.1% (Oklahoma) of adults.”¹⁵ In order to estimate results on a statewide basis, the CDC staff utilized a two-sample modeling strategy based on data from the 2007 NHIS and the 2008 Current Population Survey’s Annual and Social Economic Supplement. *The model produced an estimate for Virginia of 10.8% wireless-only households, which is well-below the nationwide figure.*¹⁶ This result is important in its own right for this application. It also undermines further Verizon’s attempt to conflate a decrease in the demand for wireline service with a decrease in market power over the remaining customers in that market.

Verizon’s recent *ex parte*, which comments on the latest CDC results, attempts to twist the evidence to fit its preconceived theory of wireless substitution.¹⁷ First, Verizon tries to sweep aside the state-level estimates by simply declaring that the national figure is “a reasonable proxy for the level of discipline that wireless imposes on wireline in any given market.”¹⁸ Second, it side-steps the evidence of a lower incidence of cord cutting in Virginia by grossing up the actual rate on the grounds that the CDC study’s author noted that he expected higher rates of cord cutting by 5% in 2009. Third, Verizon tries to make a silk purse out of the sow’s ear by claiming that the “national figure is conservative, because the highest level of substitution already achieved in some states ...

¹⁵ Stephen J. Blumberg et al., Centers for Disease Control and Prevention, *Wireless Substitution: State-level Estimates From the National Health Interview Study, January-December 2007*, No. 14, abstract (2009),.

¹⁶ *Id.* at 5.

¹⁷ Verizon Ex Parte Letter, WC Docket Nos. 08-24, 08-49 (filed April 10, 2009).

¹⁸ *Id.* at 4.

shows the trajectory and level of substitution that is likely to be achieved in other states.”¹⁹

Verizon’s misappropriation of the facts should be rejected by the Commission. The evidence of large variations on a state-wide basis is compelling evidence that residential customers are not a monolithic entity that has either cut the cord or is on the verge of slicing off the last vestiges of wireline telephone service. Rather, the complexity of the data points to significant differentiation in consumer demand for wireline and wireless services based on many different factors. Price is only one of these factors, whose importance has not been measured properly.

It is conceivable that even though demographic factors are a very powerful influence on cord-cutting, price is also very important. In order to know this for sure, it would be necessary to conduct econometric studies. Nevertheless it is worth noting that the relative price of wireline and wireless service has varied significantly over the last few years. The ratio of the wireless-CPI (local) to the wireline-CPI has declined by 16% over the last five years.²⁰ In spite of this price trend as well as significant improvements in the quality of wireless service, the demographic factors suggest a large difference in the willingness of customers to cut the cord in response to price changes. Indeed, it is very likely that the households that remain attached to the cord are less likely in the future to cut the cord in response to “small but significant” changes in the price of wireline service.

The potential that the wireline market has shrunk but demand has become *less elastic* is entirely credible. Other markets have developed along the same lines. For

¹⁹ *Id.*

²⁰ Bureau of Labor Statistics, Consumer Price Index, 2003-2008, ratio of Series CUUR0000SEED03 to Series CUUR0000SEED011, annual CPI 2003 to annual CPI 2008.

example, the economics literature has shown that the demand for brand-name pharmaceuticals becomes *less elastic* following the introduction of generic drugs.²¹ These markets appear to be differentiated by two types of consumers: those that have a strong demand for the actual or perceived benefits of brand name drugs and those that are price sensitive and willing to switch to generics for a lower price. Entry of generics causes the brand name producers' demand to diminish (geometrically it shifts inward) but becomes less elastic. The brand name drug producer responds to this situation by raising the price of its branded drug – even though “competition” has increased with the introduction of the generic drug.

The parallel in the voice telephony market would be that certain customers have a powerful demand for wireline service, either because of habit, higher-quality, ease-of-use in a large household, dependability to reach first-responders, or other reasons. As more and more customers shift to wireless service and cut the cord, these remaining customers may become even more vulnerable to an exercise of market power. I would like to emphasize that I have not tested this hypothesis, but nevertheless Verizon has not tested its implicit hypothesis that the demand for wireless has shifted inward *and* become more elastic. Moreover, counting the number of customers that have already cut the cord, as Verizon has done, tells us virtually nothing about this demand elasticity. Such information cannot credibly be used to make a decision in this case.

Several of the points that I have raised in this section echo the conclusions of the Department of Justice report summarizing a symposium held on competition in

²¹ Richard G. Frank & David S. Salkever *Generic Entry and the Pricing for Pharmaceuticals*, 6 J. Econ. & Mgmt. Strategy 75 (1997).

telecommunications markets.²² DOJ concluded that “no evidence was presented at the Symposium that this substitution to date has effectively constrained the prices consumers pay for access to landline telephone service.”²³ DOJ further elaborated that “[t]he existence of some consumers who choose to substitute wireless service for access to the landline network does not demonstrate that wireless service is an effective constraint on the prices for access to landline services. That determination turns in part on the number of customers who would choose to substitute to wireless services *entirely in response to* a specified price increase for landline service, compared with the number of customers who would choose to stay with landline and pay the additional price. *The size of that wireless substitution effect is not known.*”²⁴ As I explain above, this remains unknown and a large substitution effect cannot simply be assumed to exist.

Broadband Wireless

Even if Verizon were able to prove that wireless constrains wireline voice pricing, it would face a much tougher burden in trying to prove that wireless broadband service constrains broadband wireline service. The reason is that wireless broadband services are typically more expensive, slower, and less flexible than wireline broadband service. To demonstrate this point, I collected information from the web sites of the broadband wireless service providers in the Virginia Beach Areas. As demonstrated in the table below, the least expensive wireless broadband service provided by a major wireless company cost \$39.99 per month, and limits total data usage to 50 MB per month.

²² U.S. Dep’t of Justice, *Voice, Video and Broadband: The Changing Competitive Landscape and Its Impact on Consumers*, (2008), available at <http://www.usdoj.gov/atr/public/reports/239284.pdf>.

²³ *Id.* at 61.

²⁴ *Id.* at 65 (emphasis added; footnote omitted).

Wireless Broadband Services in VA Beach/Norfolk Area:

Service Name	Monthly Maximum Allowance	Monthly Price	Average Download Speed (in Kbps)	Average Upload Speed (in Kbps)
Verizon Wireless	5 GB	\$59.99	600-1400	500-800
Verizon Wireless	50 MB	\$39.99	600-1400	500-800
Sprint	5 GB	\$59.99	600-1400	350-500
AT&T DataConnect	5 GB	\$60.00	600-1400	500-800
Alltel - Internet Anywhere Bundle	None	\$69.98	600-1400	500-800
Alltel - Extended Wireless Internet	None	\$99.99	600-1400	500-800
Alltel - National Wireless Internet	None	\$59.99	600-1400	500-800
nTelos Wireless		\$39.99		
T-Mobile webConnect Data Plan	5 GB	\$59.99	600-1000	N/A

Speed and Quality Source:

www.mobile-broadband-reviews.com

<http://blog.laptopmag.com/hands-on-with-t-mobiles-new-mobile-broadband-usb-dongle>

Service Websites:

<http://www.verizonwireless.com/b2c/store/controller?item=planFirst&action=viewPlanDetail&sortOption=priceSort&catId=409>

<http://nextelonline.nextel.com/NASApp/onlinestore/en/Action/DisplayPlans>

<http://www.wireless.att.com/cell-phone-service/cell-phone-plans/data-connect-plans.jsp>

<http://nteloswireless.com/mobilebroadband/>

<http://www.t-mobile.com/shop/plans/cell-phone-plans-detail.aspx?tp=tb1&rateplan=T-Mobile-webConnect-Data>

Higher-end wireless broadband offerings cost approximately \$60 per month and allow greater data usage; nevertheless the average download and upload speeds are much slower than comparably or lower priced wireline offers. The table below displays some of the popular wireline broadband offerings available in the Virginia Beach MSA, for purposes of comparing them to the wireless offerings.

Wireline Broadband Services Offered in Virginia Beach/Norfolk Area

Company	Service Name	Download Speed	Upload Speed	Minimum Contract Length	Monthly Price
Cox	Premier Internet	20 Mbps	3 Mbps	12 months	\$49.95
Cox	Premier Internet	20 Mbps	3 Mbps		\$57.95
Cox	Preferred Internet	10 Mbps	2 Mbps	12 months	\$39.95
Cox	Preferred Internet	10 Mbps	2 Mbps		\$43.95
Cox	Value Internet	1.5 Mbps	256 Kbps	3 months	\$17.95
Cox	Economy Internet	768 Kbps	256 Kbps		\$19.95
Verizon	Starter Plan	1 Mbps	384 Kbps	12 months	\$19.99
Verizon	Power Plan	3 Mbps	768 Kbps	12 months	\$29.99
Verizon	Turbo Plan	7.1 Mbps	768 Kbps	12 months	\$42.99
Verizon	FiOS Fast	10 Mbps	2 Mbps	12 months	\$49.99
Verizon	FiOS Fast	10 Mbps	2 Mbps		\$59.99
Verizon	FiOS Faster	20 Mbps	5 Mbps	12 months	\$59.99
Verizon	FiOS Faster	20 Mbps	5 Mbps		\$69.99
Verizon	FiOS Faster Plus	20 Mbps	20 Mbps	12 months	\$69.99
Verizon	FiOS Faster Plus	20 Mbps	20 Mbps		\$77.99
Verizon	FiOS Fastest	50 Mbps	20 Mbps	12 months	\$144.95
Verizon	FiOS Fastest	50 Mbps	20 Mbps		\$164.95
Cavalier	Unlimited High-Speed Internet	8 Mbps			\$39.95

Notes:

All Cox plans include 14 GB storage for 7 email accounts, and 70 MB personal WebSpace.

Cox plans do not include a cable modem, which costs \$39.95, a network adapter, which costs \$39.95, or wireless router, which costs \$39.95. The Cavalier plan includes 7 GB of storage for 3 email addresses in addition to personal web space.

Sources:

Cox plans available at: <http://ww2.cox.com/residential/hamptonroads/internet/pricing.cox>

Verizon standard high-speed internet plans available at: <http://www22.verizon.com/Residential/HighSpeedInternet/Plans/Plans.htm>

Verizon FiOS plans available at: <http://www22.verizon.com/Residential/FIOSInternet/Plans/Plans.htm>

Cavalier plan available at: <http://www.cavtel.com/internet/>

Wireless broadband does not substitute for most wireline broadband usage. As explained on company websites and in customer reviews these services are only meant for “basic Internet” service, *not* as a substitute for a wireline broadband connection.²⁵ Alltel, for instance, states that its wireless broadband service is not meant to replace “server devices or host computer applications, including, without limitation, Web camera posts or broadcasts, continuous jpeg file transfers, automatic data feeds, telemetry applications, automated functions or any other peer-to-peer applications.”²⁶ It goes on to explicitly maintain that its service is not meant “as substitute or backup for private lines

²⁵ www.mobile-broadband-reviews.com provides information about wireless broadband restrictions on use and a summary of their prices and characteristics.

²⁶ <http://www.alltel.com> (last visited April 7, 2009).

or dedicated data connections.” Alltel’s restrictions are typical of the other wireless broadband providers and underscore the status of wireless broadband service as a complement to, not substitute for, wireline broadband service. In conclusion, there is no basis on which to conclude that wireless broadband service belongs in the same product market as wireline broadband service, and every reason to continue to require Verizon to provide UNE loops to its competitors in the broadband market.²⁷

6. CONCLUSION

Verizon has failed to demonstrate that competition in the residential and small business markets in the Virginia Beach MSA has developed to a sufficient extent that the Commission should forebear from requiring Verizon to provide unbundled DS0 loops. Verizon’s attempt to broaden the market to include wireless service is based on a fundamental error of economic analysis – namely, the confusion of a decline in demand with an increase in demand elasticity. Verizon has failed to provide any rigorous statistical analysis to back up its claim that wireless service constrains pricing in the wireline voice market. In light of these and other deficiencies in Verizon’s application, the Commission should deny its application for forbearance.

²⁷ Since Verizon’s UNE-loop-based competitors in the broadband market also rely on the loop to provide voice service, it is essential that there be no restriction on their use of the loop, regardless of whether the Commission believes UNE loops are essential for voice competition. The UNE-loop-based CLECs must be able to serve a customer’s voice and data needs using the loop or they would face a significant cost penalty relative to Verizon, which can use the loop to provide any service.

I declare under penalty of perjury that the foregoing is true and correct. Executed this 21 day of April, 2009, at Washington, D.C.

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CURRICULUM VITÆ

(August 2008)

EDUCATION

Massachusetts Institute of Technology, Ph.D. (Economics), 1976

University of Rochester, B.A. (Economics), *summa cum laude*, 1972

EMPLOYMENT

MicRA

Principal: October 2002 – Present

MCI Communications (WorldCom, subsequent to its acquisition of MCI)

Vice President and Chief Economist: 1998 - 2002

Executive Director: 1996 – 1998

Director: 1992 – 1996

Senior Policy Adviser: 1988 – 1992

Cornell, Pelcovits & Brenner Economists Inc

Vice President and Treasurer: 1982 – 1988

Owen, Cornell, Greenhalgh & Myslinski Economists Inc.

Senior Economist: 1981 – 1982

Federal Communications Commission, Office of Plans and Policy

Senior Economist: 1979 – 1981

Civil Aeronautics Board, Bureau of International Aviation

Industry Economist: 1978 – 1979

University of Maryland, College Park, Department of Economics

Assistant Professor: 1976 – 1978

ACADEMIC AWARDS

National Science Foundation Graduate Fellowship, 1972 – 1975
Phi Beta Kappa, 1972
Isaac Sherman Graduate Fellowship, 1972 (University of Rochester)
John Dows Mairs Prize in Economics, 1971 (University of Rochester)

PUBLICATIONS

“Long Distance Telecommunications” in Diana L. Moss, editor, Network Access, Regulation and Antitrust, (Routledge), 2005.

“The WorldCom-Sprint Merger” in John Kwoka, Jr. and Lawrence J. White, editors, The Antitrust Revolution, The Role of Economics, 4th Edition (Oxford University Press), 2003.

“Economics of the Internet,” (with Vinton Cerf), in Gary Madden and Scott Savage, editors, The International Handbook On Emerging Telecommunications Networks (Edward Elgar), 2003.

“Application of Real Options Theory to TELRIC Models: Real Trouble or Red Herring” in James Alleman and Eli Noam, editors, The New Investment Theory of Real Options and its Implications for Telecommunications Economics, (The Netherlands, Kluwer Academic Publishers, 1999).

“The Promise of Internet Access over Cable TV: Should the government force open access requirements?” (with Richard Whitt), CCH Power and Telecom Law, Vol. 2, No. 7, November/December 1999.

“Toward Competition in Phone Service: A Legacy of Regulatory Failure,” (with Nina W. Cornell and Steven R. Brenner), Regulation, July/August 1983.

“Access Charges, Costs, and Subsidies: The Effect of Long Distance Competition on Local Rates,” (with Nina W. Cornell), in Eli Noam, editor, Telecommunications Regulation Today and Tomorrow, (New York: Harcourt Brace Jovanovich, 1983).

“The Equivalence of Quotas and Buffer Stocks as Alternative Stabilization Policies,” Journal of International Economics, May 1979.

“Revised Estimates U.S. Tax Revenue (with Jagdish Bhagwati), in Bhagwati and Partington editors, Taxing the Brain Drain, (North Holland, 1976).

“Quotas Versus Tariffs,” Journal of International Economics, November, 1976.

OTHER PROFESSIONAL ACTIVITIES

Speaker and Panelist (selected examples):

Southeastern Association of Regulatory Utility Commissioners, Annual Meeting,
“Intercarrier Compensation Reform,” June 2, 2008

New England Conference of Public Utility Commissioners, 61st Annual Symposium,
Plenary Session: “The FairPoint Verizon Acquisition, Universal Service Reform and
Broadband Deployment in New England – Where Are We Today,” May 5, 2008

Spring VON Exposition, “Competition Policy,” March 17, 2008

National Association of Regulatory Utility Commissioners, Winter Meeting,
“Interconnection and Interoperability in a VOIP World,” February 19, 2008

Advanced Workshop in Regulation and Competition, Center for Research in
Regulated Industries, Rutgers Business School, “Open Access Policies, Net
Neutrality and Incentives for Innovation in the Telecommunications,” June 29, 2006

Guest lecturer in graduate and undergraduate courses at:

University of Chicago Law School
Columbia University, Graduate School of Business
New York University, Stern School of Business
Georgetown University, McDonnough School of Business
George Washington University
Johns Hopkins University
University of Maryland
American University
Northeastern University

RECENT TESTIMONIES (2003 to present)

U.S. DISTRICT COURT

In The United States District Court for The District of Colorado, Civil Action No. 03-F-2084 (CBS), QWEST CORPORATION, Plaintiff, v. AT&T CORP, Defendant.
(Deposition taken; case settled)

LONDON COURT OF INTERNATIONAL ARBITRATION

In the Matter of an Arbitration Between: France Mobile Telecom Mobile Satellite SA, Stratos Wireless Inc, Telenor Satellite Services AS Claimants - and – Inmarsat Global Limited Respondents, LCIA Arbitrations No. 6767, 6768, and 6769.

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In the Matter of Digital Performance Right in Sound Recordings and Ephemeral Records, Docket No. 2005-1 CRB DTRA

In the Matter of Digital Performance Right in Sound Recordings and Ephemeral Recordings for a New Subscription Service, Docket No. 2005-5 CRB DTNSRA

In the Matter of Adjustment of Rates and Terms for Preexisting Subscription Service and Satellite Digital Audio Radio Services, Docket No. 2006-1 CRB DSTRA

STATE LEGISLATIVE COMMITTEE HEARINGS

State of Delaware, House Telecommunication, Internet & Technology Committee, HB 417, June 3, 2008

State of Missouri, Joint Senate Commerce and Environment and House Special Committee on Utilities, 94th General Assembly, September 12, 2007

State of Missouri, Commerce and Environment Committee, 94th General Assembly, Senate Bill No. 552, March 15, 2007

State of Missouri, Special Committee on Utilities, 94th General Assembly, House Bill No. 1033, March 14, 2007

STATE UTILITY COMMISSIONS

State of California, Public Utilities Commission, Order Instituting Rulemaking into the Review of the California High Cost Fund B Program, Rulemaking 06-06-028, (Declaration)

State of New Hampshire, Public Utility Commission, Joint Petition of Verizon New England Inc., and FairPoint Communications, Inc. Transfer of New Hampshire Assts of Verizon New England, Inc. et. al., Docket No. DT 07-011

State of Vermont, Public Service Board, Joint Petition of Verizon New England, Inc., d/b/a Verizon Vermont, Certain Affiliates Thereof and FairPoint Communications, Inc. for approval of asset transfer, acquisition of control by merger and associated transactions, Docket No. 7270

State of Connecticut, Department of Public Utility Control, DPUC Investigation of Intrastate Access Charges, Docket No. 02-05-17.

State of Connecticut, Department of Public Utility Control, Application of Southern New England Telephone Company for Approval to Reclassify Certain Private Line Services from Noncompetitive to Competitive Category, Docket No. 03-02-17.

Pennsylvania Public Utility Commission, AT&T Communications of Pennsylvania, Inc. v. Verizon North, Inc. Docket Number C-20027195.

Pennsylvania Public Utility Commission, Investigation into the Obligations of Incumbent Local Exchange Carriers to Unbundle Network Elements, Docket No. I-00030099.

Pennsylvania Public Utility Commission, Generic Investigation in re: Impact On Local Carrier Compensation if A Competitive Local Exchange Carrier Defines Local Calling Areas Differently Than the Incumbent Local Exchange Carrier's Local Calling Areas but Consistent With Established Commission Precedent, Docket No. I - 00030096.

Pennsylvania Public Utility Commission v. Verizon Pennsylvania Inc. Tariff No. 216 Revisions Regarding Four Line Carve Out, Docket No. R - 00049524; Pennsylvania Public Utility Commission v. Verizon Pennsylvania Tariff No. 216 Revisions Regarding Switching, Transport and Platform for High Capacity Loop, Docket No. R - 00049525.

FCC DECLARATIONS

In the Matter of Implementation of Section 224 of the Act; Amendment of the Commission's Rules and Policies Governing Pole Attachments, WC Docket 07-245

In the Matter of Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities, CG Docket No. 03-123

In the Matter of Amendments of Parts 1, 21, 73, and 101 of The Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands, WT Docket No. 03-66

In the Matter of Tyco Telecommunications, VSNL Telecommunications, et al, Application for Transfer of Control of Cable Landing Licenses, Petition to Deny of Crest Communications Corporation

In the Matter of Review of the Commission's Rule Regarding the Pricing of Unbundled Network Elements and the Resale of Service by Incumbent Local Exchange Carriers

In the Matter of AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services

In the Matter of Unbundled Access to Network Elements, Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers

In the Matter of Appropriate Framework for Broadband Access to the Internet over Wireline Facilities

Center for Communications Management Information, Econobill Corporation, and On Line Marketing, Inc., Complainants, v. AT&T Corporation, Defendant

SELECTED CONSULTING ASSIGNMENTS

Telecommunications Industry

Prepared FCC declaration for Sorenson Communications concerning the rate methodology for reimbursing Video Relay Service providers

Prepared FCC declaration for the Wireless Communications Association International analyzing the impact of limits on spectrum leases in the Educational Broadcasting Service bands on investment in wireless infrastructure

Prepared expert reports for the Infocomm Development Authority of Singapore on access to submarine cable landing stations and regulation of local leased line circuits

Prepared and presented an analysis of the market for termination of calling on mobile phones to Ofcom, the independent regulator and competition authority for the UK communications industries

Hired to provide expert analysis of liability and damage issues in Civil Action No. 5:03-CV-229: *Z-Tel Communications Inc. v. SBC Communications Inc. et al*; In the United States District Court for the Eastern District of Texas, Texarkana Division (case settled)

Other Industries

Analyzed the market for satellite radio services (XM and Sirius) and recommended rates for the compulsory license fee for digital audio transmission of sound recordings

Analyzed the market for Internet music services and recommended rates for the compulsory license fee for digital audio transmission of sound recordings.

Hired by a rural electric power company to develop a damage model for a case involving the failure of a lessee to properly maintain and utilize a coal-powered electric power plant (case settled)

Analysis of economic benefits and tax revenues from the construction and operations of a hotel and villa complex in the British Virgin Islands